

HomePre-TestNovelCredits

Research Ethics
A Novel Approach

Introduction

- Welcome
- Objectives of this course
- What is responsible conduct of research (RCR)?
- Topics covered by this course
- Technical Requirements
- Demonstration

Welcome

Welcome to **Research Ethics: A Novel Approach**. This training program in the Responsible Conduct of Research (RCR) provides an overview and introduction to the topics and issues in RCR. We invite you to read a brief novel of seven chapters that follows the experiences of Ramona, her graduate student and post-doc colleagues, and her faculty mentors and supervisors. Discussion questions prompt you to think and write about your own reactions to these situations and offer advice to the story characters from your knowledge and experiences. Integration questions guide you to new resources and information. Additional on-line and print resources are linked to each chapter for your further reading and reflection.

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Research Ethics: A Novel Approach is designed for easy navigation. Menu items (Home, Pre-Test, Novel, and Credits) appear at the top of every page. On the left side, additional options will appear specific to a chapter or section.

Your *Current Page* will be displayed at the bottom. You can move through the application using the menu options or move through the lesson page by page using the Next Page/Previous Page navigation at the bottom.

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Research Ethics
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Pre-Test

I. Ethics Training

	To what extent have you received information about ethics from...						How helpful or effective was the information on ethics from...					
	None	Some			A Lot		None	Some			A Lot	
	0	1	2	3	4	5	0	1	2	3	4	5
NHHSF mandated training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Institutional Research Office or IRB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Graduate School workshops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Departmental/disciplinary workshops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Course lectures and readings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with research advisor or mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On-line Ethics Training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

II. Ethics Issues

What are the five most important ethical issues that graduate students and scholar-researchers need to know about as they conduct and publish their research?

1.

2.

3.

4.

5.

How much do you know about the responsible conduct of research and

How important to your success as a researcher or scholar is knowledge about

After reviewing the *Introduction* continue to the **Pre-Test**.

Answer all of the questions on the *Pre-Test* page.

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Pre-Test

III. Research Ethics

	To what extent have you received information about ethics from...						How helpful or effective was the information on ethics from...					
	None	Some			A Lot		None	Some			A Lot	
	0	1	2	3	4	5	0	1	2	3	4	5
Intervention or person-to-person in conducting and reporting research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peer review of manuscripts or grants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procedures for reporting and investigating research misconduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intellectual property rights and ownership with research collaborators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Penalties for research misconduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informed consent in human subjects use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Honorary authorship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervision and review of trainees and students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Protection for persons who report research misconduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Budget management of grants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confidentiality issues in peer review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data sharing and ownership issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compliance with institutional policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pain and suffering in animal experiments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the degree you are seeking:

→ Select One ←

What year are you in your graduate program?

→ Select One ←

Please indicate your field or discipline.

→ Select One ←

What career or employment do you anticipate after completing your graduate degree or post-doc?

→ Select One ←

Save

Remember to click **Save** when you are done.

Research Ethics:A Novel Approach

The screenshot shows a web application interface with a purple border. At the top, there is a navigation bar with links: Home, Pre-Test, Novel, and Credits. The main content area has the title "Research Ethics A Novel Approach" in orange. Below the title, there is a link "Click Here to Print Your Answers". There are three input fields: "Your Name", "Your Email Address", and "Instructor Email Address". To the right of these fields is an "Email" button.

You can send yourself and your instructor an email with your answers. After entering the necessary information, click **Email**.

You can also display your answers in a format suitable for printing.

The screenshot shows the same web application interface. The main content area now displays a confirmation message: "Your answers were sent to: YourEmail@School.edu", "Your answers were sent to: YourInstructor@School.edu", "Date: 08/14/06 18:52:53 EDT", and "Please verify that you have received an email before continuing."

A confirmation message will appear after your email has been sent.

You are now ready to start the first chapter.

Select the **Novel** menu item at the top of the screen.

The screenshot shows the same web application interface. A yellow menu box is open, displaying a list of chapters: Chapter 1: Mentors and Tormentors, Chapter 2: The Nervous One, Chapter 3: Anything for a Buck, Chapter 4: The Devil is in the Details, Chapter 5: The Impossible Dream, Chapter 6: Moving on Up, and Chapter 7: Serious Science in a Balanced Life.

Select **Chapter 1: Mentors and Tormentors**.

Research Ethics:A Novel Approach

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The power of mentors is in their capacity to awaken a truth within us, a truth we can reclaim years later by recalling their impact on our lives. - Parker Palmer

Chapter 1: Mentors and Tormentors

It was a dark and stormy night. Ramona Stevens looked at her watch. It was 9:00. If there were no more computer glitches, if the rat that ran across the toe of her boot – one of the regular escapees from Roy Beauchene's nutrition lab below – did not reappear tonight, if she could endure two more hours without food or sleep, she would be able to finish and mail the grant proposal by the midnight deadline. She knew which door to knock on at the post office by 11:00 p.m. to get today's postmark. Her colleague, JoLynn Cunningham, had told her which hangar to approach at the airport to catch the Fed Ex plane to DC. She hoped she would not have to fling herself at a taxiing airplane to get this proposal out in time.

Ramona found this new research direction especially energizing. Her doctoral work at MIT had focused on detecting pathogens, such as anthrax and smallpox, for biological weapons defense. There she had begun work with new diagnostic sensors to detect deadly viruses. Now as a post-doctoral fellow at Manning University, Ramona worked with genetically engineered white blood cells that worked much more quickly and accurately to detect biological agents like sarin. The importance of this work had given her the late night energy to be within two hours of completing her proposal. But tonight's work was made more difficult by her mentor Nick's words as he left the building for the day "You must be doing something wrong. I've never had to work a night or weekend in my 30 years here." At his departure she had muttered, "Of course not, you have me working for you."

[Chapter 1: Mentors and Tormentors](#)
[Discussion and Reflection Questions](#)
[Integration Questions](#)
[References and Resources](#)

This chapter addresses mentoring and supervisory relationships. Upon your completion of this chapter, we hope that you can identify appropriate expectations and roles in mentoring for responsible conduct of research. We also hope you learn about the mandate that mentors and institutions have for the ethical training of graduate students and post-doctoral fellows.

[<< Introduction](#) [Chapter Page 1 of 4](#) [Next Page >>](#)

Chapter 1 appears and you are ready to go. Use the navigation at the bottom of the screen to read through the chapter.

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Chapter 1: Discussion and Reflection Questions

1. What issues and concerns did you immediately react to - intellectually and emotionally - in this chapter?
2. Is Ramona receiving appropriate mentoring from Nick? What are the problems and concerns in their relationship?
3. Who has responsibility for initiating and addressing these concerns?
4. What constitutes the research and work environment that Nick should be expected to provide for staff and students in his lab?

[Save](#)

[<< Previous Page](#) [Discussion/Reflection Page 1 of 3](#) [Next Page >>](#)

After reading the chapter, the *Discussion and Reflection Questions* should be answered next.

Remember to click **Save** after answering the questions.

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Chapter 1: Discussion and Reflection Questions

[Click Here to Print Answers](#)

Your Name

Your Email Address

Instructor Email Address

[Email](#)

[<< Previous Page](#) [Discussion/Reflection Page 3 of 3](#) [Next Page >>](#)

Just like in the *Pre-Test* you can email your answers to yourself and your instructor.

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The screenshot shows the 'Integration Questions' section of the 'Research Ethics: A Novel Approach' website. The page has a purple header with navigation links: Home, Pre-Test, Novel, and Credits. A quote at the top reads: 'The power of mentors is in their capacity to awaken a truth within us, a truth we can reclaim years later by recalling their impact on our lives. - Parker Palmer'. Below this, the section is titled 'Chapter 1: Integration Questions'. It contains two numbered questions. Question 1 asks 'What makes a good mentor? What are the roles and responsibilities of a good mentor?' and includes a link to 'Click here and read about effective mentoring for research training from NIH: A Guide to Training and Mentoring in the Intramural Research Program at NIH.' Question 2 asks 'What is a mentor's responsibility in creating an appropriate, supportive, and professional work and research environment for students and trainees?' and includes a link to 'Click here and read about mentors' responsibilities for insuring a professional workplace.' Both questions have a text input field and a 'Save' button. On the left, there is a sidebar with a navigation menu: Chapter 1: Mentors and Tormentors, Discussion and Reflection Questions, Integration Questions (selected), and References and Resources. Below the menu is a paragraph explaining the chapter's focus on mentoring and supervisory relationships. At the bottom, there are links for '<< Previous Page', 'Integration Page 1 of 3', and 'Next Page >>'.

Next, the *Integration Questions* should be answered.

Make sure you click on the links and read the additional information that appears.

The screenshot shows the 'A Guide to Training and Mentoring in the Intramural Research Program at NIH' section. The page layout is similar to the previous one, with a purple header and navigation links. The main content area is titled 'A Guide to Training and Mentoring in the Intramural Research Program at NIH' and includes the text 'Text available at' followed by the URL 'http://www1.od.nih.gov/oirsourcebook/ethic-conductmentor-guide.htm'. Below the URL, there are two columns of links: 'Preface', 'Introduction', 'Supervisors, Mentors, and Trainees', 'Training in Scientific Investigation', and 'Training in Communication' on the left; and 'Training in Personal Interactions', 'Career Planning', 'Training in Scientific Responsibility', 'Concussion', and 'Directory of Useful Web Sites' on the right. On the right side of the page, there is a sidebar with a navigation menu: Tools (selected) and Credits. Below the menu is a paragraph explaining the chapter's focus on mentoring and supervisory relationships. At the bottom, there are links for '<< Previous Page', 'Integration Page 1 of 3', and 'Next Page >>'.

Click on the individual sections to read the text.

The screenshot shows the 'A Guide to Training and Mentoring in the Intramural Research Program at NIH' section, with the 'Return to Table of Contents' link highlighted. The page layout is similar to the previous one, with a purple header and navigation links. The main content area is titled 'A Guide to Training and Mentoring in the Intramural Research Program at NIH' and includes the text 'Text available at' followed by the URL 'http://www1.od.nih.gov/oirsourcebook/ethic-conductmentor-guide.htm'. Below the URL, there is a link to 'Return to Table of Contents'. The sidebar on the right has a navigation menu: Tools (selected) and Credits. Below the menu is a paragraph explaining the chapter's focus on mentoring and supervisory relationships. At the bottom, there are links for '<< Previous Page', 'Integration Page 1 of 3', and 'Next Page >>'.

Close the *pop-up* when you are finished.

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Research Ethics
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Chapter 1: Mentors and Tormentors
Discussion and Reflection Questions
Integration Questions
References and Resources

This chapter addresses mentoring and supervisory relationships. Upon your completion of this chapter, we hope that you can identify appropriate expectations and roles in mentoring for responsible conduct of research. We also hope you learn about the mandate that mentors and institutions have for the ethical training of graduate students and post-doctoral fellows.

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Chapter 1: References and Resources

Allen, J. (2006). The new faculty and graduate mentor: A guide for developing teacher-scholars for mentors, faculty, administrators, and graduate students. Sterling, VA: Stylus Publishers.

Anderson, M., Oju, E., & Falkner, T. (2001). Help from faculty: Findings from the Acadia Institute Graduate Education Study. *Science and Engineering Ethics*, 7, 487-503.

Bird, S. (2002). Self-plagiarism and dual and redundant publications: What is the problem? *Science and Engineering Ethics*, 8, 543-544.

Bird, S. (2001). Mentors, advisors and supervisors: Their role in teaching responsible research conduct. *Science and Engineering Ethics*, 7, 451-453.

Bird, S., & Sprague, R. (2001). Mentoring and the responsible conduct of research. *Science and Engineering Ethics*, 7, 451-453.

Bratton, J., & Baird, L. (2001). Preparation for professional self-regulation. *Science and Engineering Ethics*, 7, 595-610.

Eisen, A. (2002). The absent professor: Why we don't teach research ethics and what to do about it. *American Journal of Bioethics*, 2(4), 38-49.

Faden, R., Klag, M., Kass, N., & Krag, S. (2002). On the importance of research ethics and mentoring. *American Journal of Bioethics*, 2(4), 50-51.

Fischer, B., & Zigmund, M. (2001). Promoting responsible conduct in research through "survival skills" workshops: Some mentoring is best done in a crowd. *Science and Engineering Ethics*, 7, 563-587.

[<< Chapter 1](#) [References Page 1 of 3](#) [Next Page >>](#)

At the end of each chapter is a list of *References and Resources*.

After reviewing these, you are ready for the next chapter. Each chapter is structured exactly the same way.

When you have finished *Chapter 7* there is one additional task to complete.

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Research Ethics
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Chapter 7: Serious Science in a Balanced Life
Discussion and Reflection Questions
Integration Questions
References
Post-Test

This chapter addresses responsibility, guidelines, and protections for reporting violations of responsible conduct of research. Upon your completion of this chapter, we hope that you will understand the responsibility of researchers to both self-regulate and to report ethical violations as well as the procedures and protections for whistle blowing. We also want you to reflect on and commit to the values, scientific integrity, and ethical behaviors required for the

Few [people] are willing to brave the disapproval of their fellows, the censure of their colleagues, the wrath of their society. Moral courage is a rarer commodity than bravery in battle or great intelligence. Yet it is the one essential, vital quality for those who seek to change a world which yields most painfully to change. - Robert F. Kennedy

Chapter 7: Serious Science in a Balanced Life

The buzz on campus was that Ramona's mentor Nick had been nominated for a Lasker prize. The Lasker Awards recognize "stunning achievements in basic and clinical research, as well as significant public service in behalf of medical science." For over 50 years these prizes, known as "America's Nobels," have recognized the top scientists "whose accomplishments have made major advances in the understanding, diagnosis, prevention, treatment, and even cure of many of the great crippling and killing diseases of our century." Remarkably, 48% of the Lasker Basic Award winners later win the Nobel Prize, including Francis H.C. Crick, Barbara McClintock, George Wald, James D. Watson, and Roderick MacKinnon.

[Ramona faced a sort of Cantor's Dilemma.](#)

This one was Ramona's dilemma. She knew the short-cuts Nick had taken with his research. She saw him rush to publication with some questionable data. In all four phases of clinical trials he was not as cautious as she would have been. He certainly had been more of a tormentor rather than the mentor she wanted. In fact, she had discussed with her husband Brad that, although she was very happy with their marriage, she planned to place a personal ad in the *Metropolis*: Talented Biological Sciences Post-doc ISO a MENTOR. Intelligent, hard working new

[<< Chapter 7](#) [Serious Science in a Balanced Life Page 1 of 3](#) [Next Page >>](#)

When you reach the end of *Chapter 7*, remember to click on **Post-Test** and complete.

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Research Ethics
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Welcome
Objectives of this course
What is responsible conduct of research (RCR)?
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Introduction

Welcome

Welcome to **Research Ethics: A Novel Approach**. This training program in the Responsible Conduct of Research (RCR) provides an overview and introduction to the topics and issues in RCR. We invite you to read a brief novel of seven chapters that follows the experiences of Ramona, her graduate student and post-doc colleagues, and her faculty mentors and supervisors. Discussion questions prompt you to think and write about your own reactions to these situations and offer advice to the story characters from your knowledge and experiences. Integration questions guide you to new resources and information. Additional on-line and print resources are linked to each chapter for your further reading and reflection.

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You are all ready to go! Just click **Pre-Test** to get started!